To: Durno, Mark[durno.mark@epa.gov]
From: Scott Smith
Sent: Tue 1/17/2017 9:33:17 PM
Subject: Confidential FW: Story for Time.com
Ex. 6 - Personal Privacy 1605004 FinalReport.pdf
VA Tech Ex. 6 - Personal Privacy Testing Nov-2016.xlsx

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Mark,

Per our discussion, if you believe there is anything here that is incorrect or needs to be clarified, please let me know.

Would also appreciate you keeping this to your eyes only along with Nancy (for just her eyes), if you deem it necessary to share with her.

From:
Scott Smith <ssmith@waterdefense.org>
Date: Friday, January 13, 2017 at 12:02 PM
To: Josh Sanburn <Josh_Sanburn@timeinc.com>
Cc: Ex. 6 - Personal Privacy Harold Harrington <ualocal370@comcast.net>, Ben Ranger Ex. 6 - Personal Privacy
Subject: Re: Story for Time.com

Josh,

Thanks for reaching out and below is my on the record response to Time:

What does Water Defense do?

Water Defense is rooted in the belief that access to clean safe water is a fundamental human right. Our work aims to protect this right for everyone regardless of income level, race, national origin, beliefs, or location. We prioritize unbiased data collection and seek to leverage that information to protect aquatic resources and equal access to clean water.

Water Defense conducts water testing activities throughout the United States, gathering data and raising public awareness about the major issues affecting water and public health. We respond to water contamination events by deploying an investigative team on the ground to collect water samples and document contamination.

Our testing methodology

We collect water samples using two different methods. The first is a traditional “grab” sample, in which pre-cleaned, EPA certified VOC/SVOC[1] and general sampling containers, approved for metal, VOC, and SVOC sampling, are filled with water, sealed, and labeled, and sent to an accredited independent laboratory with proper chain of custody documentation. The second water sampling method utilizes a new technology called the “WaterBug.” The WaterBug was designed to collect an integrated and cumulative sample of contaminated water over time. We believe that this technology serves to average out the episodic changes in water contamination concentrations

inherent in many bodies of water such as lakes, rivers, streams, oceans, as well as municipal water supplies, irrigation systems, and in premise plumbing fixtures. The WaterBug was also designed to detect the presence of contamination that might otherwise remain undetected by traditional grab sampling methods. Water Defense uses the WaterBug in concert with traditional grab sampling methodology in order to generate a more detailed and comprehensive measurement of water contamination.

Once our investigative team has collected water samples, documented our sampling methodology and completed chain-of-custody reports, the water samples are transported to ALS Environmental, an independent and accredited water-testing laboratory. ALS relies on well-established and validated testing methodologies, including those recommended by the US Environmental Protection Agency (EPA). Laboratory testing protocols of WaterBug samples are designed by Water Defense to ensure the reliability of data produced and minimize variability across samples. For more information about ALS testing of WaterBug samples, please visit our page on Lab Testing of WaterBug Samples.

Upon receipt of the analytical reports of our tested samples from the laboratory, we work with our scientific advisors to review, interpret and release the data to the community and other stakeholders. Water Defense is proud to work with a highly-trained and multidisciplinary group of scientists with varied expertise. While community-based citizen-scientists provide a critical role for making science happen, we also recognize the value of traditionally-educated science professionals for guiding experimental design and data interpretation. Water Defense prioritizes transparency and the public release of unadulterated and complete lab reports, along with scientifically-vetted statements concerning potential public health and environmental impacts. We continually offer an invitation for individuals and organizations to join us at any stage of our work, whether it be collecting samples, interpretation of laboratory reports, or public dissemination of information.

Why Did Water Defense go to Flint?

Our work in Flint began in January 2016, when we made our first trip to the city to investigate the on-going water contamination crisis. The goal of our first trip was to conduct a preliminary investigation into the nature of the crisis, better understand any historical contamination, and identify any factors that existed or continue to exist that have impacted the local water supply. Before we arrived in Flint, we conducted our standard pre-investigation research to inform our sampling locations and working protocols. This research included a time-line of events that led to the water contamination, as well as responsive actions taken by the state and local governments.

Despite the fact that by January 2016, the City of Flint was no longer using the Flint River to supply municipal drinking water, we took baseline samples from the river to determine what physical-chemical factors may have been present that aided in the observed pipe corrosion. Sampling of the Flint River was also performed to gain an independent evaluation of contributing historical factors and contamination levels to better understand corrosion potential and background contamination that could be considered or ruled out from a risk characterization standpoint. Water Defense sought to determine, among other things, whether there were sources of metals (particularly lead) still present in the previously-used source water. Those data collected from the Flint River provided a reference for the corrosion and contamination existing throughout Flint. Water Defense has since used the data gathered to inform our on-going work in Flint. Laboratory findings from these studies can be found in the following link: Flint River Baseline 1602002 Report

As our work progressed in the following weeks and months, Water Defense continued to document the presence of various water contaminants at concentrations that suggested potential health concerns. For example, using a grab sample, we documented bathwater that contained 16 parts per

billion (ppb) of lead, which exceeds the EPA Action Level of 15 ppb, at which federal regulators require a water system to take action to protect public health.

Water Defense has also been engaged in testing the effectiveness of filtration technology produced by an independent local Flint-based company, as part of Scott's work on the ground with the United Association of Plumbers, Pipefitters, Sprinklerfitters, and Service Technicians ("UA") known in Flint as the UA Local 370 Plumbers' Union. This work was undertaken to evaluate the utility of filtration systems in order to provide for the protection of the Flint community, and neither Scott nor Water Defense has received any financial payment for this work. No technology or product developed by Water Defense or invented by Scott Smith will be evaluated or considered for use in Flint as a filtration product. The testing results for this work can be found in at Flint House #6 (2nd visit) 1603753 Report and Flint House #2 (2nd visit).

Showering and Bathing Testing and Concerns

Flint residents have long known about the dangers of drinking unfiltered municipal water. Because they have been informed that the water is unsafe for drinking and preparing food, they are able to protect themselves from further exposure to lead from drinking water. However, based on community comments regarding skin irritation, rashes, hair loss, and other health issues, Water Defense became concerned that residents may not have been properly informed of the potential risks of showering in unfiltered Flint water. Laboratory testing of samples collected revealed presence of contaminants, some of which have the ability to volatize into the air and be inhaled, or be dermally absorbed through the skin.

On or about mid-February of 2016, Ex. 6 - Personal Privacy and several other community members Ex. 6 - Personal Privacy works with requested more comprehensive testing of Flint water in homes from Water Defense. Based on my experience with Water Defense in other contamination events and concerns expressed from Melissa and other residents, I thought it was important to begin testing water heaters and also to determine what was in the water as it entered a home or premise(near the water meter). Because of safety and the need for licensed and properly trained experts in plumbing piping systems, water heaters etc., I connected with Ben Ranger and Harold Harrington of the United Association of Plumbers & Pipefitters' Local 370. Ben and/or Harold witnessed and helped me along with residents (almost always with Melissa present) on taking water samples what we refer to as comprehensive water tests in Flint.
Comprehensive testing means testing the water as it enters a home (near the water meter, this is important to help understand the state of the water as it enters a premise), the water heater, the hot shower water, and other locations within a home as determined on a case by case basis. I understand that there may be some speculation from the Professor at VA Tech about how the water was tested near the water meters at the homes. I strongly recommend that you review the detailed test reports and speak with the actual people that did the testing to get the true and accurate facts – this is why I have copied Melissa, Ben, and Harold on this e-mail.

Our findings and input from our scientific support team informed our decision to question statements coming from the State of Michigan Department of Environmental Quality, which assured residents that it was safe to shower in Flint water. Consequently, we began testing water heaters and hot water in showers utilizing both sampling methods identified above in an attempt to ascertain which contaminants exist that present a potential risk for exposure via inhalation or dermal absorption.

Our testing of bath and shower water throughout Flint revealed various chemicals known as disinfection by-products (DBPs), which include trihalomethanes (THMs) such as chloroform. These contaminants are formed when disinfectants such as chlorine, which are used to control microbial contamination, react with naturally-occurring organic and inorganic matter in water.

Chlorine is a well-known disinfectant used around the world to keep water systems safe from microbial contamination. The organic matter that it reacts with exists naturally in source water. The presence of chloroform and other DBPs in tap water is an expected trade-off from the necessity of using chlorine as a disinfectant. Our concern was based not on the mere presence of DBPs, but on the levels at which they were occurring and the potential human exposure pathways that were not being addressed.

Laboratory reports on grab samples we collected from baths and showers throughout Flint showed levels of chloroform concentrations ranging from 0 to 38 ppb.[2] Although these levels are below the existing EPA Maximum Contaminant Level (MCL) of 80 ppb for total trihalomethanes for drinking water, we believe this federal legal limit should be lowered to well below 80 ppb. The significant toxicity of some THMs and other less-studied DBPs have been documented by scientists throughout the world, and in the last twenty years the evidence implicating THMs in serious disorders has mounted: A collection of peer-reviewed scientific literature has shown adverse health impacts such as bladder cancer,[3] reproductive risks, still births, and adverse developmental effects[4] associated with exposure to THM concentrations between 20 and 50 ppb. Furthermore, the EPA MCL for THMs was created under the assumption that the main route of exposure to these chemicals was via drinking water. Our research, and input from our science support team, has raised the point that drinking may not be the most important route of exposure. Numerous studies have shown that showering and bathing are important routes of exposure, primarily via inhalation, for THMs and may actually contribute more to total exposure than drinking water.[5] While there are hundreds of DBPs that are currently known to exist with new compounds continually emerging, only 11 DBPs are currently regulated.[6] Emerging DBPs have created a steadily growing regulatory gap and implicate potentially unaddressed public health concerns.[7]

While there is no doubt that refraining from showering/bathing will cause adverse health impacts that are of concern and pose their own immediate and long-term health risks, there are other options that are hygienic and could reduce or possibly mitigate exposure to contamination. Showering in cold or cool water has been shown to reduce the amount of aerosolized contaminants dramatically.[8] Additionally, taking a hot bath as opposed to showering in hot water reduces the amount of aerosolized particulates and volatiles released into the air. Moreover, keeping the windows and bathroom door open while showering increases the ventilation and thus reduces any potential exposure. A good option for residents who believe they are at-risk of suffering from contaminant exposure is to take luke-warm (or even cold) baths in a well ventilated area.

Water Defense believes that each individual and family should make their own personal choice regarding potential risk and response to contaminant exposure. We want the community of Flint to know that when using Flint water to shower, there are some considerations they should be aware of in order to make a personal decision. We believe that the residents of Flint have a right to reliable and complete information to inform these personal decisions. By providing the residents of Flint with this information, Water Defense has empowered the community to make their own personal decisions for themselves and their families which are informed by reliable data and published scientific research. We stand by our work and will continue to support the people of Flint as they pursue their fundamental right to clean safe water.

Bacteria concerns

In early March of 2016, Melissa Mays introduced me to Bob Bowcock (over 30 years of experience as a Licensed water treatment expert and partner with Erin Brockovich). In March of 2016 Bob was on the Steve Harvey show and along with a medical doctor raised the issue about the water not being safe to bathe or shower in in Flint. This is informative and raises important issues in Flint. Link

is here: https://youtu.be/oWcdFunBVww

Bob Bowcock has repeatedly informed me that phosphate compounds and iron are food for bacteria and has repeatedly expressed concerns about water heaters as in the video link above. I encourage you to speak with Bob for more information. The point is that we have an entire collaborative team of people starting with residents, the Water Defense team, Bob Bowcock, the Plumbers' Union, and others.

What is the difference between your data/lab reports provided and Others?

Water Defense prides itself on operating in a completely transparent and credible manner. For this reason, we make all of our test results available to the public in the exact form we receive them from the laboratory. We believe that this practices sets our work apart from other organizations. To date, we are not aware of detailed and unadulterated lab reports being made available from any other organization testing the water in Flint. A link to all of our test reports from flint is available here: https://flintwaterdefenseinfo.org/information/lab-reports/

As an example for your review, I have attached one of Ex. 6 - Personal Privacy detailed test reports provided by Water Defense and the VA Tech spreadsheet Ex. 6 - Personal Privacy received from VA Tech.

It is our understanding that there are 35,000 homes in Flint and multiple reservoirs along with issues with an over-sized water distribution system – which further complicated things once the corrosive water was introduced into the water distribution system.

There are continuing questions as to how it can be determined statistically and conclusively that Flint is just like any other city based on testing paid for by the EPA and done by VA Tech for 2 homes in Flint and 1 hotel outside of Flint with 1 commercial building outside of Flint. We understand that there may be a few more data points, but have not see any detailed lab reports.

We continue to believe that more complete testing and research needs to be done in Flint before any final conclusions are made as to the safety of the water. Furthermore, without a proper Epidemiological study, no cause and effect relationships can made between what is found in the water and reported human health problems.

Best Regards,

Scott Smith
Chief Technology Officer & Investigator
Water Defense
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From:
Josh Sanburn <Josh_Sanburn@timeinc.com>
Date: Monday, January 9, 2017 at 5:40 PM
To: Scott Smith <ssmith@waterdefense.org>
Subject: Story for Time.com

Hi Scott,

I'm working on a story about Flint's water issues, and I wanted to see if you could discuss the work Water Defense has done there, what kind of results you're seeing from the samples you're testing, and some of the findings found at the home of Ex. 6 - Personal Privacy (who I talked to last week). Would you be around this week to discuss?

Thanks,

Josh Sanburn
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